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Conference Abstract

Why are our Jar Lids Crumbling?

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Abstract

Glass jars and lids used to house fluid preserved specimens in Natural History Museums are arguably one of the most important factors needed to ensure the long term conservation of the specimens in their collections. Additionally these jars are used to display specimens in exhibits, and are the first, and often the only line of defense against damage caused by evaporation of the fluids used to preserve specimens. The Harvard Museum of Natural History (HMNH) was established as the public face of the Museum of Comparative Zoology (MCZ) which opened its doors in 1859. Often, the Museum of Comparative Zoology loans fluid preserved invertebrates to the Museum of Natural History at Harvard for display. Of specific interest to this project is a permanent arthropod exhibit displaying a variety of specimens in jars ranging from 4 oz to 1 gallon in size. During a 7-year public exhibition loan, lids began to deteriorate while on display. Visually, these lids became cracked and webbed, and upon physical manipulation the plastic crumpled into pieces. Notably, this problem has not been observed in research collections where the specimens are permanently stored. Possible factors affecting lid stability include temperature and light, and other unknowns. Given the potential impact of this issue on all collections we investigated the possible causes of lid degradation and wish to bring attention to this issue. Photography was used to document the physical problem and MicroCT was used to investigate both cracked and new lids. The resulting images are displayed here. Although the composition of lids are explored, and other jar methods outlined, flint jars remain the most consistent, and sturdy option for a student oriented museum.

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